

## REMARKS

### **I. Introduction**

With the cancellation herein without prejudice of claim 19, claims 18 and 20 to 35 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Applicant notes with appreciation the acknowledgment of the claim for foreign priority and the indication that all copies of the certified copies of the priority documents have been received from the International Bureau.

### **II. Rejection of Claims 18 to 30 and 35 Under 35 U.S.C. § 102(b)**

Claims 18 to 30 and 35 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,888,907 ("Tomoyasu et al."). It is respectfully submitted that Tomoyasu et al. do not anticipate these claims for at least the following reasons.

As an initial matter, claim 19 has been canceled herein without prejudice, thereby rendering moot the present rejection with regard to claim 19.

Claim 18 relates to a device for anisotropically etching a substrate. As amended herein without prejudice, claim 18 recites an arrangement having etching gas zones and passivation gas zones that alternate around a circumference in the overhead view, wherein the arrangement is arranged so that the gas supplied to the first zones and the gas supplied to the second zones are spatially separated from one another before reaching the mixing region, and during which the blending of both of the gases is at least largely prevented. Support for this amendment may be found for example at claim 19, which has been canceled herein without prejudice, and at page 11, lines 11 to 17 of the Specification.

As such, the device of amended claim 18 is disposed such that the gas supplied to the first zones and the gas supplied to the second zones are spatially separated before they reach the mixing region and separately supplied, and during this time, no substantial mixing of both gases takes place. In contrast, Tomoyasu et al. use an ordinary "shower head" (see, e.g., col. 5, lines 59 to 60, and Figures 2 and 3) for the supply of gases—as far as the zones resulting therefrom are concerned. It is neither described nor desired in Tomoyasu et al. that the two different gases be

supplied via the shower head into the chamber such that they initially remain spatially separated from each other in the reaction region. Only in this manner could reactive species be generated from the two gases, independently from each other, in the separated zones in the reaction region. According to claim 18, the mixing of the two reactive species occurs first in the mixture region that is disposed downstream from the reaction region. However, because only one of the two gases is reactive in Tomoyasu et al., spatially separated zones in the reaction region are unnecessary and therefore not disclosed or even suggested.

Furthermore, Tomoyasu et al. do not disclose or suggest the additional feature that etching gas zones and passivation gas zones alternate around a circumference in an overhead view. As can be seen in Figure 2, the openings for inactive and reactive gases are disposed so that they alternate in a radial direction (see also col. 5, lines 62 to 65); however, this does not apply for adjacent openings in a row around the circumference. Only openings for a particular gas type are disposed in a row around the circumference. That is to say, no adjacent etching gas zones and passivation gas zones are formed therefrom that alternate around a circumference.

Since Tomoyasu et al. do not disclose, or even suggest, all of the features recited in claim 18, it is respectfully submitted that Tomoyasu et al. do not anticipate claim 18.

Claims 20 to 30 and 35 ultimately depend from claim 18 and therefore include all of the features recited in claim 18. It is therefore respectfully submitted that Tomoyasu et al. do not anticipate these dependent claims for at least the same reasons set forth above in support of the patentability of claim 18.

In view of all of the foregoing, it is respectfully submitted that Tomoyasu et al. do not anticipate claims 18, 20 to 30 and 35. Withdrawal of this rejection is therefore respectfully requested.

### **III. Rejection of Claims 18 to 35 Under 35 U.S.C. § 102(b)**

Claims 18 to 35 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,042,687 ("Singh et al."). It is respectfully submitted that Singh et al. do not anticipate these claims for at least the following reasons.

As an initial matter, claim 19 has been canceled herein without prejudice, thereby rendering moot the present rejection with regard to claim 19.

Claim 18 relates to a device for anisotropically etching a substrate. As amended herein without prejudice, claim 18 recites etching gas zones and passivation gas zones that **alternate around a circumference** in the overhead view, wherein the arrangement is arranged so that the gas supplied to the first zones and the gas supplied to the second zones are **spatially separated from one another before reaching the mixing region**, and during which the blending of both of the gases is at least largely prevented. Support for this amendment may be found for example at claim 19, which has been canceled herein without prejudice, and at page 11, lines 11 to 17 of the Specification.

Claim 31 relates to a method for anisotropically etching a substrate. As amended herein without prejudice, claim 31 recites introducing the etching gas at least predominantly into a plurality of first zones, and introducing the passivation gas at least predominantly into a plurality of second zones, the etching gas zones and the passivation gas zones **alternating around a circumference** in the overhead view. Support for this amendment may be found, for example, at page 11, lines 11 to 17 of the Specification.

The gas supply lines of Singh et al. are not suitable to form spatially separate zones for the two gases in the reaction region. In Figure 1a, the second gas ring 167 is situated under the first gas ring 160, and it is done without any lateral shift in relation to each other so that the gas from the second gas ring 167 is inevitably mixed with the gas from the first gas ring 160. In both Figures 3 and 4, the first gas ring 160 is disposed over the substrate while the openings for the second gas are disposed laterally on the substrate base. Even in such an arrangement, a second zone that is acted upon primarily or at least almost exclusively by the second (passivation) gas is not made possible, since the gas from the first gas ring 160 practically is present in the entire etching chamber, including at the height of the substrate.

Singh et al. also fail to disclose or suggest etching gas zones and passivation gas zones alternating around a circumference in an overhead view. In all arrangements described by Singh et al., a gas ring having numerous openings is provided only for a particular gas type so that no adjacent etching gas zones and passivation gas zones that alternate in a row around the circumference are formed.

Since Singh et al. do not disclose, or even suggest, all of the features recited in claims 18 and 31, it is respectfully submitted that Singh et al. do not anticipate any of claims 18 and 31.

Claims 20 to 30 and 35 ultimately depend from claim 18 and therefore include all of the features recited in claim 18. It is therefore respectfully submitted that Singh et al. do not anticipate these dependent claims for at least the same reasons set forth above in support of the patentability of claim 18.

Claims 32 to 34 depend from claim 31 and therefore include all of the features recited in claim 31. It is therefore respectfully submitted that Singh et al. do not anticipate these dependent claims for at least the same reasons set forth above in support of the patentability of claim 31.

In view of all of the foregoing, it is respectfully submitted that Singh et al. do not anticipate claims 18 and 20 to 35. Withdrawal of this rejection is therefore respectfully requested.

#### IV. Conclusion

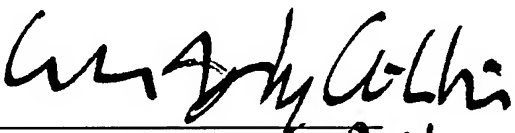
It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

Date:

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By:

  
Gerard A. Messina  
Reg. No. 35,952  
RN  
72,144

KENYON & KENYON LLP  
One Broadway  
New York, New York 10004  
(212) 425-7200  
CUSTOMER NO. 26646